

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-17 are pending. Claims 1-17 stand rejected.

Claims 1, 3, 5 - 7, 11, and 12 have been amended. Claims 2, 4, 16 and 17 have been canceled. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Rejections Under 35 U.S.C. § 102(e)

Claims 1-3, 6-8 and 11-13 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,359,863 of Varma, et al. ("Varma"). The Examiner stated that

As to claims 1, 6, and 11, see figure 9, lines 1-7 of Varma. In particular, see lines 8 and 9 in figure 9 with respect to bandwidth. In addition, see column 17, line 59 – column 18, line 9 with respect to failed (i.e., idle) channels.

As to claims 2, 7, and 12, see figure 5b, step 116 shows the new computation rate for the connection, while steps 118-122 show the new rate being fed back into the stream to be sent back to the resource.

As to claims 3, 8, and 13, see figure 5a, in reference to steps 106-112 with respect to a minimum connection requirement (MCR). The MCR ensures that connections will always be maintained at a specific transmission rate (e.g., see column 15, lines 1-63).

(p. 3-4, Office Action 3/15/04)

Varma states

...connections will claim back the reserved bandwidth and severe congestion can result if more of the bandwidth is allocated to ABR traffic.

Recovering Bandwidth from Idle Connections

The rate-allocation algorithm modifies the allocation of a connection only upon receipt of an RM cell from the connection. Thus, a connection that remains idle for a long period can maintain its allocation at the switch, potentially causing under-utilization of the link bandwidth. The solution lies in periodically scanning the allocation table and reducing the allocations for connections that have not transmitted an RM cell within a timeout interval, maintaining only a minimum rate (MCR) for these connections. This scanning

algorithm can be run as a background process that is interrupted on receipt of an RM cell, which invokes the rate allocation algorithm.

(Col. 17, line 59 – Col. 18, line 9)

Applicants respectfully submit that claim 1 is not anticipated by Varma under 35 U.S.C.

102§(e). Amended claim 1 includes the following limitations:

A method for queuing control of variable bandwidth communications channels comprising:

detecting a change from a first bandwidth to a second bandwidth of a communication channel, the communication channel including a plurality of lines, wherein the change includes one or more lines of the plurality of lines becoming active and one or more lines of the plurality of lines being broken;

calculating the second bandwidth based upon how many of the plurality of lines are broken; and

adjusting a quality of service controller to compensate for the change from the first bandwidth to the second bandwidth

providing the second bandwidth via a feedback loop to a transmission rate selector;

computing transmission rates;

queuing first data cells of having fixed transmission rates;

assigning a high transmission priority to the first data cells;

queuing second data cells having variable transmission rates; and

assigning a lower priority to the second data cells.

(Amended claim 1) (emphasis added)

Applicants respectfully submit that Varma does not disclose the limitation of calculating the second bandwidth based upon the number of lines of the communication channel that are broken. Moreover, claim 1 has been amended to include the limitations of claim 4 which are not anticipated by Varma as stated by the Examiner.

For these reasons, applicants respectfully submit that claim 1 is not anticipated by Varma. Given that claims 3 and 5 are dependent from claim 1, applicants respectfully submit that claims 3 and 5 are, likewise, not anticipated by Varma.

Applicants respectfully submit that claims 6 and 11 are not anticipated by Varma under 35 U.S.C. 102§(e). Claims 6 and 11 contain the limitation of calculating the second bandwidth based upon the number of lines of the communication channel that are broken. Applicants respectfully submit that Varma does not disclose this limitation. Given that claims 7 – 10 and

claims 12 – 15, depend, directly or indirectly, on claims 6 and 11, respectively, applicants respectfully submit that claim 7 – 10 and 12 – 15 are, likewise, not anticipated by Varma.

Rejections Under 35 U.S.C. § 103(a)

Claims 4-5, 9-10 and 14-17 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,359,863 of Varma, et al. (“Varma”) in view of U.S. Patent No. 5,696,764 of Soumiya, et al. (“Soumiya”). The Examiner has stated that

As to claims 4-5, 9-10, and 14-15, Varma discloses a method for handling cells in an ATM switch that includes the monitoring of the available output bandwidth and changing the input rates if fluctuations should occur.

Varma is silent or deficient to teaching prioritizing cells over another in both the queuing and selecting of said cells.

Soumiya teaches the above-cited limitation at e.g. column 28, lines 9-43.

As to claims 16-17, Varma discloses in figure 1 one or more data sources as well as a digital switch. Also shown is a variable bandwidth bi-directional communication channel electronically coupled to the digital communication switch where the digital communications switch monitors the bandwidth change in the variable bandwidth bi-directional communication channel e.g., see columns 17-18 of Varma.

Varma may be silent or deficient to the further limitation “wherein the switch comprises a quality of service controller and data queues”. In particular, Varma teaches queues and a rate allocation processor 36, see e.g., figure 3.

Soumiya teaches the above-cited limitation as shown in figures 7 and 8.


(p. 4-5, Office Action 3-15)

Applicants respectfully submit, however, that neither Varma, nor Soumiya, alone or in combination, include the limitation of calculating the second bandwidth based upon the number of lines of the communication channel that are broken as claimed. Therefore, for the reasons discussed above, applicants respectfully submit that claims 1, 3, 5, and 6 – 15 are not obvious under 35 U.S.C. § 103 in view of Varma and Soumiya.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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